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(71) Applicant: **ROLLS-ROYCE plc**

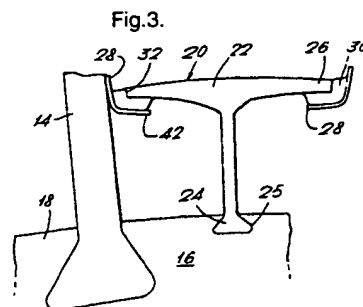
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(54) Rotors for gas turbine engines

(57) A rotor for a ducted fan gas turbine engine includes a rotor disc on which a number of circumferentially spaced apart blades (14) are mounted. Wall members (20) are positioned to bridge the space between adjacent blades (14). The wall members correspond in profile with the blades adjacent thereto. A seal is mounted on a side face of each wall member and is bonded to a flexible mounting which is bonded itself to the wall member. The flexible mounting (30) has elastic properties so as to allow the seal (28) to deflect relative to the wall member under centrifugal loading during operation.



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EUROPEAN SEARCH REPORT

Application Number
EP 96 30 9401

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
D,X	WO 93 22539 A (ROLLS ROYCE PLC ;KNOTT DAVID SYDNEY (GB)) 11 November 1993 * page 4, line 28 * * page 4, line 17 - line 20 * * page 5, last paragraph * * figures 3,4 * Y * abstract *	1-3,6,7 1,4,5,9	F01D11/00 F16J15/12
Y	US 4 183 720 A (BRANTLEY JAMES W) 15 January 1980 * column 3, line 24 - line 46 * * column 4, paragraph 2 - paragraph 3; figure 6 *	1,2,6,7	
Y	EP 0 669 451 A (SNECMA) 30 August 1995 * abstract * * figure 6 * * column 3, paragraph 2 *	1,2,6,7	
X	US 4 645 217 A (HONEYCUTT JR FRED L ET AL) 24 February 1987 * column 3, last paragraph - column 4, paragraph 2; figure 2 * & DATABASE WPI Section PQ, Week 8710 Derwent Publications Ltd., London, GB; Class Q52, AN 87-072200 * abstract *	9	TECHNICAL FIELDS SEARCHED (Int.Cl.6) F01D F16J
X	US 4 626 002 A (HAGEMEISTER KLAUS ET AL) 2 December 1986 * column 1, line 15 - line 16 * * column 5, line 22 - line 43 * * figure 11 * --- -/--	9	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	11 March 1999	Raspo, F	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : technological background O : non-written disclosure P : intermediate document X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category	

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Office

EUROPEAN SEARCH REPORT

Application Number
EP 96 30 9401

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	US 3 113 526 A (NSU MOTORENWERKE AG) 10 December 1963 * column 4, line 44 - column 5, line 13; figures 2-6 * -----	1,4,5,9	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 11 March 1999	Examiner Raspo, F
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03 82 (P/MCC)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 96 30 9401

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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11-03-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9322539 A	11-11-1993	DE 69302813 D	27-06-1996
		DE 69302813 T	26-09-1996
		EP 0640172 A	01-03-1995
		US 5464326 A	07-11-1995
US 4183720 A	15-01-1980	NONE	
EP 0669451 A	30-08-1995	FR 2716502 A	25-08-1995
		DE 69501973 D	14-05-1998
		DE 69501973 T	20-08-1998
		US 5520514 A	28-05-1996
US 4645217 A	24-02-1987	NONE	
US 4626002 A	02-12-1986	DE 3401569 A	25-07-1985
		FR 2558234 A	19-07-1985
		GB 2153030 A,B	14-08-1985
		JP 1927183 C	25-04-1995
		JP 6056229 B	27-07-1994
		JP 60159488 A	20-08-1985
US 3113526 A	10-12-1963	NONE	